State Branding of Gift Shop and Restaurant Menu Items

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Introduction

Efforts to differentiate and promote the food and agricultural products of a particular state are widely utilized across the United States. These promotional efforts, directed primarily at consumers, employ slogans like *Jersey Fresh* and *Arizona Grown®* that are used in product labeling, point of purchase promotional materials, and media advertising. Currently, as many as 23 states now employ state branding programs (Williams). Despite their widespread use, the effectiveness of these promotion programs has been questioned (Hollaran and Martin). In particular, some question whether a campaign to differentiate one state's commodities can truly be effective when that commodity faces competition from producers in many other states. Indeed, successful differentiation would require that consumers' perceive the product to be uniquely different, possibly conferring upon it a certain price premium, as might be expected under a model of monopolistic competition. Indeed, only in cases where a shift in demand is accompanied by an increase in price will there be any potentials gains to producers from the promotion program (Alston, Carmen, and Chalfant). Research by Adelaja *et al*. found the demand for *Jersey Fresh* branded tomatoes to be more price inelastic and more income elastic, suggesting successful differentiation. However, research by Patterson, *et al*. found the *Arizona Grown®* program to be ineffective in increasing the demand for *Arizona Grown®* fruits and vegetables. Thus, it is unclear whether successful differentiation can occur for unprocessed agricultural commodities sold through retail grocery outlets.

However, certain products sold through certain outlets or in certain forms may lend themselves more readily to differentiation through a state-branding program. This may be the

case for processed or prepared foods sold to narrowly defined consumer groups, such as tourists. Shops and restaurants catering to tourists often enjoy certain locational advantages that may allow for a certain degree of market power to be exercised, allowing for a price increase. Salop and Stiglitz show that incomplete information and costly search costs may cause tourists to pay more for certain goods. Aside from these arguments, tourists are likely to be less price sensitive and more willing to spend additional increments of income on gifts and restaurant foods while on vacation. These conditions enhance the likelihood of successful differentiation through state branding programs. Furthermore, purchasing state branded products may also be argued to enhance their overall travel experience or level of utility, presuming that the product's identified state of origin is perceived to be a favorable product attribute. The vast market for state-specific trinkets available in nearly every state attests to the favorable views tourists hold for products bearing an identifying mark of their travel destination. Even residents of a particular state are often found to prefer products produced in their home state when they perceive them to be of better quality or succumb to sentimental parochial interests (Patterson *et al.*; Jekanowski *et al.*). While tourist gift items and restaurant menu items have already been the target for many states' branding programs, such as labeled bottles of Vermont syrup, the value consumers place on this attribute has not been identified. Furthermore, tourists have not targeted by the *Arizona Grown®* program, despite the important contribution of tourism to the state's economy.

Arizona's leading economic sector is services, employing about 658,000 people or 30.6 percent of the workforce. Many of these jobs are directly or indirectly related to tourism, which generates nearly $13 billion in sales and about 378,000 jobs (Arizona Department of Commerce). Arizona's tourists are drawn to the state's scenic natural attractions and the many resort and recreational facilities, each of which offer dining and shopping opportunities.

Appropriately featured Arizona gift shop items or menu items could be perceived by consumers as tangible goods that enhance their "Arizona experience."

Whether identification of a product as *Arizona Grown®* or produced is a valuable product attribute to this consumer segment is not currently known. Provided that it is valued by this group, this information could be used in developing new market opportunities for locally produced products, resulting in an increase in demand for them overall. This segment may also be willing to pay a premium for these products, resulting in increased revenues for the producers of these goods. Developing an estimate of the premium consumers would pay for the products would be useful not only for restaurant and gift shop managers and product producers, but also for *Arizona Grown®* program managers. Throughout its history, this promotion program has relied on at least half of its operational funds from the state's legislature (Patterson, *et al*.). To date, no efforts have been made to license the use of the copyrighted promotion logos or slogans. These licensing fees could be used as one alternative method for funding these promotional and market development efforts. Therefore, the objective of this study is to determine the value consumers, notably tourists, place on the state branding attribute, as identified through product labels and product descriptions. This will be the first study on state branding programs to establish such a value.

The value consumers place on state origin as a product attribute was only one part of this analysis. We also sought input from key decision makers on the viability of targeting tourists in an *Arizona Grown®* promotion. This input was obtained from a focus group session. These focus group participants were presented the results of the analysis of consumer responses to products differentiated or branded as *Arizona Grown®*. Then, they were asked to provide input on the study's results and their broader views on the proposed promotion concept.

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Thus, the study presents both consumer and industry views on the proposed extension of the *Arizona Grown®* (or *Pride of Arizona®*) program to restaurant menu items and gift shop items targeted to Arizona tourists. This report begins with a description of the consumer analysis and then presents the industry views. Finally, based on the finding from each analysis, the report presents recommendations in the form of an action plan on proceeding with state promotion efforts.

Consumer Views

Although the *Arizona Grown®* program has been in place for several years, it has not been extensively used for gift shop items nor has it been used for restaurant menu items. Thus, there are no readily available price data on products containing this product feature, that would be amenable to price analysis techniques, like hedonic pricing models. Therefore, the value consumers place on the Arizona origin identity will be determined through the use of a stated preference model. In this case, a conjoint experiment will be performed using three restaurant menu items and three gift shop items.

Methodology

Conjoint analysis has been used extensively in marketing research and industrial applications, notably for analysis on new product development, market segmentation, or product differentiation (Green). Indeed, as long ago as 1982, over 1,000 industrial applications of conjoint analysis were reported to have been employed (Cattin and Wittink). Generally, this research method presents survey respondents with depictions of hypothetical multiattribute products. In each presentation of the product, some attribute is varied. The respondent is then

required to rank or rate the product depictions. This allows for the quantification of the marginal rate of substitution between the various product attributes.

Resource economists (MacKenzie) recognized that this stated preference methodology could be used as an alternative to traditional open-ended contingent valuation methods (CVM), wherein respondents are directly asked to place a value on a particular product attribute, or closed-ended CVM methods, where respondents are asked whether they would pay a specified amount for a particular attribute. In conjoint experiments, price is included simply as another product attribute. The ratings or rankings elicited from the survey respondents are used to form an indirect utility index. Then, by regressing this index on the product attributes, including price, compensated measures of the consumer's marginal willingness to pay or the implicit price for a certain attribute may be obtained. It is argued that one of the major advantages of conjoint analysis, in comparison to contingent valuation methods, is the high degree of realism with which consumer choices may be portrayed (Hair, *et al*.). Further, survey respondents are believed to be more comfortable responding to survey questions where price is treated simply as another attribute of a composite good, rather than having to directly place a value on a certain attribute or accept a single attribute at a specified price (MacKenzie). It also allows for a broader exploration of various product attributes in a composite good.

Consider, for example, a composite good Z with N attributes, $Z(z_1, z_2, ..., z_N)$, where z_i refers to the quantity of the ith attribute. Assuming that utility, $U[Z(z_1,..., z_N); X]$, is additively separable in Z and other goods, X, the marginal rates of substitution between any pair of attributes is independent of the level of any other goods, X. Now, let two attributes, z_i and z_j, be varied across alternative bundles Z^0 and Z^1, while all other attributes are held constant, and let an individual compare bundles $Z^0(...z_i^0, z_j^0...)$ and $Z^1(...z_i^1, z_j^1...)$. Where these two attributes are

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varied in proportions so that the individual is left indifferent between bundles Z^0 and Z^1, the implied marginal rate of substitution between attributes z_i and z_j is the ratio of the marginal utilities $-U_{zi}/U_{zj}$ (Freeman).

If the composite good Z has a defined price or cost, P_Z, the utility function may be expressed in the indirect form $V[z_i, \ldots z_N, P_z, I]$, where I represents the individual's income. Presented with a particular bundle of attributes, Z^0, a consumer could be asked to provide a rating of the desirability of that bundle, r^0. Utility may then be transformed by a transformation function $\{.\}$ such that:

(1) $r^0 = \{V[z_i, \ldots z_N, P_z, I, Y]\}$.

The transformation function is a monotonic function such that $v^0 > v^1 \quad r^0 > r^1$. The transformation function is necessary, since the relative utility for different bundles is mapped to the bounded, integer rating scale (Roe, Boyle, and Teisl). Assuming that the indirect utility function may be represented by a linear specification gives,

(2) $r = a + b_1 z_1 + \ldots + b_N z_N + b_p z_p + b_I I,$

which is the traditional conjoint analysis equation. If the marginal utility of income is assumed constant, $b_p = -b_I$, the income term drops out upon estimation of this function, since an individual's income does not vary across alternative bundles of attributes (Hanemann). Suppose an individual compares bundles $Z^0(\ldots z_i^0, \ldots P_Z^0)$ and $Z^1(\ldots z_i^1, \ldots P_Z^1)$, with other attributes held constant. When z_i and P_Z are varied so that the individual is indifferent between Z^0 and Z^1, the ratio $-V_{Zi}/V_{Zp}$ represents the marginal willingness to pay (implicit price) for attribute z_i (MacKenzie).

For the objectives of this study, the primary attribute of concern are designators of product origin. To test the value of this information for consumers, it was necessary to select

some gift shop and menu items that could be realistically promoted as being grown or produced in Arizona. The selection of these products and the development of the conjoint experiment are discussed in the next section.

Experimental Design and Estimation Method

Three restaurant menu items and three gift shop items were selected for this study. The restaurant menu items included three entree items including a meat and various side dishes that are commonly produced and available in Arizona. The meats included, beef, lamb, and ostrich. The menu items were presented to the survey respondent in a format similar to an actual menu description. The described preparation of these meats and the side dishes accompanying them were based on a review of several regional recipe books and, thus reflect a Southwestern flare. A sample description of these products is given in Figure 1.

The gift shop items are actual commercial products available in Arizona. The products selected were based in part on the ability to obtain the manufacturers permission to use the product in the study and reflected an effort to select products that conveyed some of the unique product offerings of the state. The selected items include an Arizona red wine, salsa, and prickly pear cactus candy. Sample depictions of these products are available in Figures 2 through 4.

For the menu items, the attributes that were varied as part of the experiment were the entree item, price, the presence of the *Arizona Grown®* logo, and an attribution to the product's Arizona origin in the menu description. Three common price levels were used for all the menu items, $13, $16, and $19. The logo and the description's origin attribution were each at two levels-either present or not. Table 1 summarizes the product attributes considered for the menu items. In terms of developing the conjoint experiment, this could be described as a 3x3x2x2 experiment or one containing 36 different possible combinations of the factor levels in a full-

factorial design. If conducted as a full-factorial design, all 36 different possible combinations or cards would be presented to the respondent. However, this number of product combinations is far too many to successfully use during a interview. Typically, in conjoint experiments the number of product depictions or cards that a respondent is presented with, may be reduced by developing a fractional-factorial design, which is a subset of the full-factorial design, whereby all the information needed for determining the marginal valuations of certain attributes is preserved. Assuming a linear additive model of product attributes, as given in equation 2, an orthogonal experimental design may be developed, whereby the subset of factor levels are orthogonal and balanced (each level in a factor appears the same number of times). However, for the menu items, it was decided that providing only a logo without an accompanying description of what was actually Arizona grown could be construed as misleading or only partly informative. Thus, the restriction that a logo could only appear if accompanied by an origin description was imposed. This prohibited the development of an orthogonal design. Alternatively, a nearly orthogonal design was developed using the D-optimality design criteria, which reduced the number of profiles to 18. This criterion is known to have excellent properties such as low variances for the parameters and low correlations among parameters (Mitchell).

Given the fairly wide difference in product prices for the gift shop items, these products were treated individually in the analysis. In addition, the wine product was also promoted by its manufacturer as being an organic product, giving this product one additional product attribute to include in this product's design not present in the other products. Thus, the wine attributes included price at three levels, the *Arizona Grown®* logo (two levels-present or not), a written description of the product's origin in the label (two levels-present or not), and an organic label (two levels-present or not). A full factorial design would have required 24 (3x2x2x2) product

profiles. No restrictions were placed on this design and an orthogonal design was used to reduce the number of card to six. As processed food products, the salsa and candy products would be eligible for the *Pride of Arizona®* label. Thus, these logos were used for these products. In addition, each product was depicted at one of three possible price levels and with or without a description of the product's origin on the label. Again, an orthogonal design was used to reduce the number of product profiles to six for each product. Table 2 presents a summary of the product attributes considered for each gift shop item.

For both the restaurant menu items and the gift shop items, each consumer was presented with a card containing a depiction of the product. For the gift shop items the card contained a color photograph of the product and a summary panel of all the product attributes. For the restaurant menu items, the cards read like an excerpt from a restaurant menu. The menu cards and cards for each gift shop item were randomly sorted between each presentation to a survey respondent. The respondents were then asked to indicate on a 10 point scale their likelihood of purchasing the product (1=extremely unlikely, 10=extremely likely). Thus, the responses were obtained in the form of ratings. Conjoint experiments may be conducted using either ratings or product rankings. Mackenzie argues that ratings may provide more information than rankings, as they allow the respondent to express an indifference between some bundles and they allow the respondent to convey the intensity of their preferences.

Although many conjoint studies employ ordinary least squares to estimate ratings models, this is not an appropriate estimation method. The categorical nature of the dependent variable leads to heteroskedasticity and, hence, inefficient parameter estimates and the non-normal distribution of the error term invalidates classical tests of significance. Hence, we use an ordered probit model, which assumes each level of the dependent variable to be a censored

apportionment of a continuous distribution of purchase likelihoods. Maximum likelihood

estimation was conducted using the LIMDEP econometric software (Greene, 1996).

This software was used to obtain estimated parameters necessary for computing the

willingness to pay measures. In addition to reporting point estimates of the willingness to pay

measure, confidence intervals may also be computed for these values. Several alternative

approaches are used in developing confidence intervals for nonlinear transformations of

parameter estimates, including bootstrapping from the original data (Cooper; Boyle, *et al*). Here,

a bootstrapping procedure, whereby N observations are randomly sampled with replacement

form the original data set of size N. The model coefficients are estimated from the resampled

data and the compensating variation measures are calculated from these coefficients. This

procedure is repeated 1,000 times for each model. The fifth and ninety-fifth percentiles of these

distributions define 90% confidence intervals. These confidence intervals and point estimates

are described in the next section.

Results

Restaurant Menu Items

For the restaurant menu items, each respondent reviewed a total of 18 cards. Responses

from a total of 78 respondents were used in the analysis, providing 1,404 observations for the

regression model. Table 4 presents the estimated probit model for the menu item experiment.

The model significance is evaluated using a chi-square test of the difference between the

restricted and unrestricted log likelihood values under the null hypothesis that all the independent

variable coefficients, except for the intercept, equal zero. With five degrees of freedom, the null

hypothesis is rejected, given a chi-square value of 139.2.

As with any probit estimation, the estimated parameters cannot be interpreted as marginal

values. It is noted, however, that all the parameters take on their expected signs. Price would be expected to have a negative coefficient, as an increase in price would reduce a consumer's level of utility, while the origin description and logo are expected to have positive signs. Greene (1991) presents a method for computing the marginal effects of each dependent variable on influencing the probability of achieving a certain expressed purchase intention (likelihood). For this analysis, however, an estimate of the consumers' willingness to pay for certain product attributes is more important, and it may be computed using the parameter estimates directly. The willingness to pay measures are reported as both point estimates and as 90 percent confidence intervals.

The beef and lamb variables entered the model as binary variables and ostrich was treated as the excluded category, since its inclusion would have result in a matrix of explanatory variables that is singular. Therefore, the implicit prices for beef and lamb should be interpreted as their implicit price relative to the excluded category, ostrich. The positive implicit prices for beef and lamb indicate that they are both preferred to ostrich. Further, they indicate how much a consumer would have to be compensated in order to consume ostrich instead of beef or lamb. For example, a consumer would have to receive a $7.81 in compensation if they had to purchase ostrich instead of beef. Similarly, they would have to receive $5.08 to purchase ostrich instead of lamb. This also indicates that beef is the most preferred product. Indeed, the difference between the beef and lamb implicit prices, $2.73, indicates the amount of compensation a consumer would have to receive in order to consume lamb instead of beef. These compensation values could be used in establishing price levels that are consistent with the relative valuations consumers place on these products.

The origin description implicit price indicates that consumers are willing to pay a $4.66

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premium for menu items made with products produced in the state of Arizona. Furthermore, a premium of $2.57 may be realized when the *Arizona Grown®* logo accompanies the product description. In each case, the confidence interval does not contain a value of zero, which implies that the null hypothesis that the willingness to pay is zero can be rejected at a 90 percent level of confidence. Therefore, product origin is an attribute restaurant diners value. Since the logo only appeared with products that also had an attribution to the origin in the description, its smaller magnitude may reflect a declining marginal value for information. However, it still has a statistically and economically significant implicit price.

These results demonstrate that diners do value information on the origin of the food product, as identified by a product description or logo. This suggests that new marketing opportunities could exist for local producers of food products sold through restaurants under a state branding program. This type of marketing effort would be akin to some of the co-branding developments already observed on some restaurant menus, which feature entrees prepared with certain branded ingredients, like certain seasonings, liquors, or types of meat. Similar, state branding opportunities were also found for processed food products sold through gift shops or other venues catering to tourists.

Gift Shop Products

Each respondent to the gift shop survey was presented with six cards on each product, providing 516 observations for the estimation of each product model. The results for wine are presented in Table 5. Again, the null hypothesis that all independent variables equal zero is rejected at the five percent level, providing support for the overall performance of the model. The consumer's willingness to pay for products identified as *Arizona Grown®* using a logo is estimated at $9.40. With a median price of $16.95, one might be tempted to say that the logo turns the average $7 bottle of wine into a $16 bottle of wine. The ability of a brand to generate such a price premium on food products is not uncommon. A review of branded and private label cereals revealed that the branded products sold at a price that was 56 percent higher than the comparable private label product (Gejdenson and Schumer). However, caution needs to be taken in interpreting this result, given the very broad confidence interval associated with this measure, ranging from $3.28 to $33.21. This lack of precision arises from the lack of precision obtained in estimating the price coefficient. The implicit prices for the label's origin description and organic label are estimated at $1.26 and $2.13, respectively. In each case, however, the confidence intervals contain zero, suggesting that we can rule out the possibility that these attributes hold no value to the consumer. Thus, the *Arizona Grown®* logo is valued by consumers, but a description of the origin by itself is not. Thus, differentiation would be most effectively achieved by using the logo. The effectiveness of the logo, albeit a slightly different logo, is also found for salsa and candy.

The overall significance of the estimated salsa model, as presented in Table 6, is supported using the chi-square test. The willingness to pay for an Arizona product, as communicated with a logo, is estimated $3.78. Furthermore, this estimate lies in a fairly tight

interval, ranging from $2.81 to $5.24. For a product with a median value of $7.50, the point

estimate suggests that the logo could produce a 50 percent markup in the product's price. The

labeled origin description is also found to have a positive implicit price of $1.03. Thus, origin,

whether identified through the *Pride of Arizona®* logo, a product description or through a

product description on the label, is of significant value to consumers considering a salsa

purchase.

Yet, it cannot be concluded that consumers place a high value on origin information, as

described by a label's description on the prickly pear candy product. The origin description only

has an implicit price of $0.51 and its confidence interval contains zero (see Table 7). However,

the implicit price associated with the *Pride of Arizona®* logo is $2.69. This implies that a

markup of about 39 percent could be achieved through the use of the logo. Again, effective

differentiation can only be achieved by using the logo.

Summary of Consumer Views

It was found that restaurant diners do value the state of origin attribute. The implicit

prices associated with either a description of the product's origin or the state's *Arizona Grown®*

logo were found to be statistically and economically significant. This suggests that new

marketing opportunities exist for Arizona farmers for products sold to restaurants. This

marketing opportunity would be similar to those already observed on some restaurant menus,

where products featuring certain ingredients (certain meats, seasonings, or liquors) are featured

through a co-branding effort. However, since Arizona's agricultural products are generally

unprocessed or only semi-processed and sold in bulk form, they face the challenge of developing

a marketing system that can assure the buyer of the product's origin. This challenge, though, is

similar to those faced by producers of products who already use other forms of differentiation,

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like certain production practices (organic, grass fed, free range), plant varieties (Vidalia onions) or animal breeds (Certified Angus), in marketing their products. For products that are only produced seasonally, like fruits and vegetables, the growers and restaurant managers will need to develop methods for featuring the branded products when they are available, that do not require expensive changes in the restaurant's menus.

Potential shoppers at gift shops were also found to be favorably predisposed to purchasing products of local origin. For each of the products considered, differentiating the product's origin was most effective through the use of the state's logo. A simple description of the product's origin on the label was found to be much less effective. These results also point to new marketing opportunities for locally processed food products sold to gift shops using the state brand. Since the products are already branded by the manufacturer, problems of certifying and identifying origin are not as difficult, as compared to raw agricultural commodities. However, it is not known whether consumers purchasing these products outside of the state would find the state logo to be desirable product attribute. Thus, the manufacturer is faced with the decision as to whether to use the logo on all products manufactured or only those destined for local distribution. This adds the complexities to the handling and distribution of these products.

The consistent finding that consumers (tourists) value the state's brand identity, as conveyed through the logo, also suggest potential opportunities for the state to license the use of these copyrighted logos. Revenues collected from licensing agreements could be used in activities similar to those conducted by commodity boards funded through producer check-off funds. The state program administrators could undertake certain "generic" promotions emphasizing the state brand as a "family or corporate" brand identifying a broad range of locally produced and processed products. Similarly, these funds could be used to support distribution

activities, such as origin certification and product development.

Industry Views

Industry views on the proposed promotion concept were elicited through a focus group session. Using a mailing list developed from the Arizona Restaurant Association and a list of Arizona resorts and gift shops, managers were invited to participate in a focus group session on July 18, 2001. About 80 businesses were contacted by mail and through follow up telephone calls about this opportunity.

The assembled group consisted of managers from growers' organizations, food processing and manufacturing firms, and hotels and restaurants, met with officials from the Arizona Departments of Agriculture and Tourism to hear a presentation on the study's results, to discuss the study's results, and to discuss using the *Arizona Grown®* promotion for restaurant and menu items. Following the presentation of the study results, the group was led through a discussion focusing on four central questions: (1) Are the results believable? (2) Would they consider participating in the this type of promotion? (3) What barriers do they foresee in implementing the proposed program? And, (4) would they contribute to support the program or use its logo? Reactions to the study's results also prompted a broad ranging discussion on the feasibility and efficacy of using the *Arizona Grown®* promotion program in efforts targeted to tourists.

Reaction to Results

In general, the group felt that it was conceivable that the promotion could be effective in differentiating some products and that it could add value to the product. Though, some questioned the ability of the program to enhance value to the extent suggested by the estimated parameters. In particular, skepticism was expressed on the ability of the logo and origin

description to enhance the value of a menu item by $7.00. Concern was also expressed over the ability of restaurants to successfully feature Arizona products due to potential limitations on supply and potentially higher costs. The primary concerns, though, were related to the potential failure by consumers to recognize the *Arizona Grown®* or *Pride of Arizona®* logos and to associate them with products offering enhanced value. The concern is rooted in a perception that Arizona tourists do not typically associate Arizona with food and agricultural products, despite its position as a leading producer of some vegetables. Arizona is more frequently thought of with regard to the desert and golf resorts. In short, Arizona food and agricultural products would need to be repositioned through the use of increased promotional activities.

It was suggested that more efforts should be taken to inform tourists about the diversity of food and agricultural products available in the state. Airline flight magazines were proposed as a mechanism for promoting these products to the target consumers. In addition, displays at the Phoenix and Tucson airports or gift shops exclusively featuring Arizona products would provide consumers with more information. Over time, these promotional activities would aid in repositioning the products among the targeted consumers.

Beyond informing consumers of the types of Arizona products that are available, the promotion needs to be carefully matched with products that consumers will readily accept as unique Arizona products. For example, it was felt that the salsa product would be a favorable match. Consumers readily associate salsa with the Southwestern landscape and culture. Less enthusiasm was expressed for featuring wine, as an Arizona product. Concerns were expressed over whether consumers would perceive Arizona wine as being a high quality product.

Concerns over the appropriateness of featuring certain products as *Arizona Grown®* through a co-branding or family branding effort, led to a discussion on limiting the brand to high

quality products. When the brand is extended to a broad group of products, there exists a risk that a poor product may damage the reputation of other products carrying this family brand. Thus, if a product is going to carry the state logo, it must be of high quality.

Some still held reservations on the use of the *Arizona Grown®* program in an effort targeted towards tourists. Some felt that this should not be done at the expense of promoting Arizona products to Arizona residents. This recognizes the original intent of the promotion, as it was felt that Arizona consumers should be afforded the opportunity to be informed about better quality, local products.

Barriers to Implementation

It was recognized that local products are already featured by many high quality restaurants. Furthermore, these types of restaurants frequently change and print their own menus. Thus, concerns over the cost of making menu changes were not considered a serious impediment for high quality restaurants. The greatest concern over featuring certain restaurant items centered more on their potential costs and availability. These issues and menu costs could prove to more problematic for higher volume restaurants offering mid-priced items to a broader segment of dining clientele.

Concerns over branding manufactured products were not voiced. Rather, new opportunities for using the brand on prepared institutional items were suggested, such as ready to eat salads prepared for food service use. One focus group participant suggested that the logo could be used for items prepared for airline food service. Furthermore, it was suggested that some existing web sites linked to the Arizona Department of Tourism could be used as a means of featuring certain Arizona food products, branded as *Arizona Grown®* .

Use of Logo or Promotion and Willingness to Support

There was not resounding enthusiasm for adopting the logo and promotion activities for restaurant menu items and gift shop items. However, as with any focus group, the views expressed represent a small segment of the industry and are difficult to generalize. There was a view, however, that it may be more applicable to gift shop items. In particular, gift shop items that could be viewed as unique Arizona products. For restaurant menu items, the lack of consumer recognition of the agricultural products that are associated with the state makes it a more difficult proposition.

Given the tentative support for the promotion, the focus group was generally hesitant to step forward and commit to paying for the right to use the logo or to support broad promotional effort. Interests representing growers and ranchers, however, expressed their membership's support of the program. It was acknowledged that if the program can be executed in a way that does enhance the earnings of their members, it is a worthy investment on their part and it is fair for all who benefit to contribute to the costs.

Summary of Industry Views

In general, the focus group seemed to support the concept and felt that this promotion could prove useful for promoting items to Arizona tourists. However, it was felt that the promotion may be more effective for select gift shop items. This averts problems associated with handling perishable products. Furthermore, packaged goods can communicate more about the product through labeling and packaging design about the unique Arizona product attributes. However, the promotion must be matched with products that are appropriately suited for the promotion and they must be high quality products.

Beyond simply branding a product, the promotion must also work to further inform Arizona tourists on the unique products available from the state and the opportunities to obtain

high quality, fresh products. It was felt, however, that these promotional efforts should not be limited simply to tourists, as many state residents are still not familiar with either the promotion or Arizona products.

<div align="center">**Action Plan**</div>

The results of the study indicate that tourists and restaurant diners place added value to products that market their state of origin as a novelty item. Additionally, gift shop customers were found to be favorably predisposed to purchasing products of local origin. Therefore the predicted plan of action will proceed consecutively with further research and the formation of strategic market partnerships between the Arizona Department of Agriculture and the restaurant and gift shop industries.

Arizona Grown® **Restaurant Certification**

In an effort to develop a lasting relationship with Arizona's restaurant industry, the Arizona Department of Agriculture's Office of Marketing and Outreach will establish a joint marketing program for *Arizona Grown®* Restaurants. Restaurants which agree to utilize *Arizona Grown®/Pride of Arizona®* products, as ingredients in their menu will be licensed to use the Department's branded and trademarked logos on menus, in-store displays, window stickers, and advertising. Restaurant participants will be listed in an annual directory published by the Office, as well as, being featured on the Department's web-site.

The target audience for this program is any Arizona restaurant interested in sharing in the inherent value of local product promotion. The results of this FSMIP study have successfully shown that tourists visiting local establishments are more likely to purchase items that pertain to local fare, if the item is clearly designated as such on the menu. Additionally the study concludes that the tourism consumer is willing to pay significantly more for an item

differentiated from the rest of the menu items by the *Arizona Grown*® logo. Due to the fact that tourism is a major component of Arizona's local economy, this service is specifically targeting a captive and enthusiastic audience.

Implementation of this action item should proceed as follows:

1.   Identify local restaurants willing to participate and support the program. Target completion of initial contact: December 2001

2.   License restaurants interested in supporting the local agriculture economy. Target completion: March 2002

3.   Development database of growers and restaurants directory. Target completion: June 2002

We believe this service will increase the consumption of *Arizona Grown*® agricultural and value-added products, while increasing the circle of stakeholders and partners in which the Office presently operates. A second goal of the program is to connect producers with restaurant purveyors.

Arizona Grown® Retailer Certification

The Arizona Department of Agriculture's Office of Marketing and Outreach will establish a joint marketing program for *Arizona Grown*® Retailers. Retailers, which agree to utilize, display and sell Arizona special and value-added products in their retail operations will be licensed to use the logos trademarked by the Arizona Department of Agriculture. This service will increase the consumption of *Arizona Grown*® agricultural products and will increase the circle of stakeholders and partners in which the Department and the producing industries presently operate. Participants will be listed in an annual directory publication published by the Office as well as featured on the Department's web-site.

The target audience for this service is any Arizona retailer interested in sharing in the inherent value of local product promotion. The study results clearly demonstrate consumer choices relating to more favorable purchasing power with locally branded products. The study results show that the typical tourism consumer is willing to pay significantly more for an item differentiated from the rest of the items by use of the *Arizona Grown®* logo.

Implementation of this action item should proceed as follows:

1. Identify local retailers willing to participate and support the program. Target completion of initial contact: December 2001

2. License retailers interested in supporting the local agriculture economy. Target completion: March 2002

3. Develop complete *Arizona Grown® Retailer* directory. Target completion: June 2002

Future FSMIP Project

The final item of the action plan is the development of a follow-up research project. It behooves the project committee to prepare a follow-up research study. This study would further define the consumer socio-economic status that seeks local branding and may well determine the success of the Office's efforts to establish partnerships with restaurants and retailers. The restaurant industry for instance may be further defined as average menu prices. The same may hold true for retail/gift shops.

Implementation of this action item should proceed as follows:

1. Preparation of FSMIP grant application. Target completion: January 2002

2. Notice of grant awards. Target date award notification: June 2002

3. Begin research study. Target beginning date: July 2002

4. Complete final project analysis and submission of finished project. Target completion

date: June 2003

References

Adelaja, A.O., R.G. Brumfield, K. Lininger. "Product Differentiation and State Promotion of Farm Produce: An Analysis of the Jersey Fresh Tomato." *Journal of Food Distribution Research*, 21(1990):73-85.

Alston, J.M., H.F. Carman, and J.A. Chalfant. "Evaluating Primary Product Promotion: The Returns to Generic Advertising by a Producer Cooperative in a Small, Open Economy." In E.W. Goddard and D.S. Taylor (Eds.), *Promotion in the Marketing Mix: What Works, Where, and Why* (pp. 145-167), Guelph, Canada: Department of Agricultural Economics and Business, University of Guelph.

Arizona Department of Commerce. "Arizona: A Spirit of Success." http://www.azcommerce.com/pdf/commasst/comm/spirit.pdf, July, 2001.

Boyle, K.J., T.P. Holmes, M.F. Teisl, and B. Roe. "A Comparison of Conjoint Analysis Response Formats." *American Journal of Agricultural Economics*, 83(2001):441-454.

Cattin, P. and D.R. Wittink. "Commercial Use of Conjoint Analysis: A Survey." *Journal of Marketing*, 46(1982):44-53.

Cooper, J.C. "Comparison of Approaches to Calculating Confidence Intervals for Benefit Measures from Dichotomous Choice Contingent Valuation Surveys." *Land Economics*, 70(1994):111-122.

Freeman, A.M. "Factorial Survey Methods and Willingness to Pay for Housing Characteristics: A Comment." *Journal of Environmental Economics and Management*, 20(1991):92-96.

Gejdenson, S. and C. Schumer. "Consumers in a Box: A Consumer Report on Cereal." *Agribusiness*, 15(1999):207-218.

Green, P.E. "On the Design of Choice Experiments Involving Multifactor Alternatives." *Journal of Consumer Research*, 1(1974):61-68.

Greene, W.H. *Econometric Analysis, Second Edition*. New York: Macmillan Publishing Company, 1991.

Greene, W.H. Econometric Software Incorporated. *LIMDEP Version 7.0*, 1996

Hair, J.F., Jr., R.E. Anderson, R.L. Tatham, and W.C. Black. *Multivariate Data Analysis, 3rd Edition*. New York: Macmillan Publishing Company, 1992.

Hanneman, W.M. "Welfare Evaluations in Contingent Valuation Experiments with Discrete Responses." American Journal of Agricultural Economics, 66(1984):332-341.

Hausman, J.A., ed. *Contingent Valuation: A Critical Assessment*. New York: North Holland,

1993.

Hollaran, J.M. and M.V. Martin. "Should States be in the Agricultural Promotion Business?" *Agribusiness*, 5(1989):65-75.

Jekanowski, M.D., D.R. Williams II, and W.A. Schiek. "Consumers' Willingness to Purchase Locally Produced Agricultural Products: An Analysis of an Indiana Survey." *Agricultural and Resource Economics Review*, 29(2000):43-53.

MacKenzie, J. "Evaluating Recreation Trip Attributes and Travel Time Via Conjoint Analysis." *Journal of Leisure Research*, 24(1992):171-184.

Mitchell, T.J. "An Algorithm for the Construction of 'D-Optimal' Experimental Designs." *Technometrics*, 16(1974):203-210.

Patterson, P.M., H. Olofsson, T.J. Richards, and S. Sass. "An Empirical Analysis of State Agricultural Product Promotions: A Case Study on *Arizona Grown®*." *Agribusiness*, 15(1999):179-196.

Roe, B., K.J. Boyle, and M. Teisl. "Using Conjoint Analyses to Derive Estimates of Compensating Variation." *Journal of Environmental Economics and Management*, 31(1996):145-159.

Salop, S.C. and J. Stiglitz. "Bargains and Ripoffs: A Model of Monopolistically Competitive Price Dispersion." *The Review of Economic Studies*, 44(1977):493-510.

Williams, D.R. "Feasibility of a Statewide Branding Program for Indiana-sourced Food and Agricultural Products." Masters Thesis, Purdue University, 1995.

Sonoran Mesquite-Smoked Beef Brisket

Arizona beef brisket is dry rubbed with an assortment of *Sonoran* spices and smoked over mesquite wood until tender and juicy; served with a medley of *Arizona Grown®* fresh squash. $ 13

Purchase Intention

Extremely Unlikely									Extremely Likely
1	2	3	4	5	6	7	8	9	10
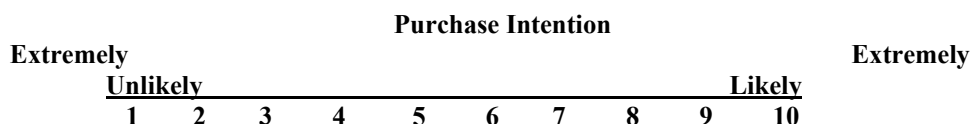
Char Grilled Ostrich Medallions

Char grilled *Arizona* ostrich tender loins are placed over a colorful assortment of *Arizona Grown®* zucchini, tomato, eggplant and red capsicum. $ 16

Purchase Intention

Extremely Unlikely									Extremely Likely
1	2	3	4	5	6	7	8	9	10
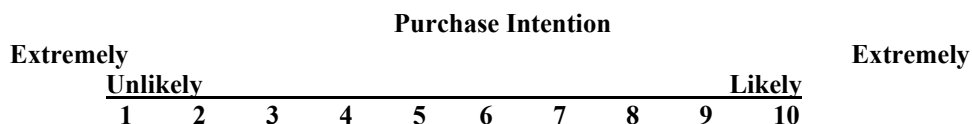
Herbed Spit-Roasted Leg of Lamb

Slices of succulent, juicy *Arizona* leg of lamb, roasted over an open grill; served with garlic mashed potatoes and *Arizona Grown®* fresh steamed spinach $ 16

Purchase Intention

Extremely Unlikely									Extremely Likely
1	2	3	4	5	6	7	8	9	10
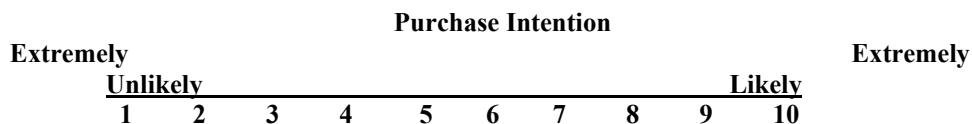
Figure 1. Example Cards for Restaurant Menu Items.

Figure 3. Example Card for Salsa Product.

Table 1. Menu Item Conjoint Analysis Experimental Design.

Attribute	Factor Levels	Description
Product	3	Beef, lamb, ostrich
Arizona Grown® logo	2	Logo and no logo next to menu item description; only appeared with the origin description.
Arizona origin description	2	Arizona origin and no mention of origin in menu item description
Price	3	$13, $16, $19

Table 2. Gift Shop Conjoint Analysis Experimental Design.

Product/Attribute	Factor Levels	Description
Wine		
Arizona Grown® logo	2	Logo and no logo on product package
Arizona origin description	2	Arizona origin and no mention of origin
Organic label	2	Organic label and no organic label
Price	3	$13.95, $16.95, $19.95
Salsa		
Pride of Arizona® logo	2	Logo and no logo on product package
Arizona origin description	2	Arizona origin and no mention of origin
Price	3	$5.50, $7.50, $9.50
Candy		
Pride of Arizona® logo	2	Logo and no logo on product package
Arizona origin description	2	Arizona origin and no mention of origin
Price	3	$4.95, $6.95, $8.95

Table 3. Demographic Characteristics of Samples.

	Menu Items	Gift Items
Purchase Food as Gift (Percent - Yes)	n/a	100
Non-residents (Percent)	71	100
Number of States	22	22
Number of Foreign Countries	1	5
Age (Percent)		
Under 30	9	12
30 - 39	13	14
40 - 49	19	29
50 - 59	22	15
60 - 69	26	21
70 or older	12	9
Annual Household Income (Percent)		
Under $25,000	9	10
$25,000 - $49,999	12	20
$50,000 - $74,999	21	22
$75,000 - $99,999	27	24
$100,000 or more	32	23
Gender (Male - Percent)	59	51
Number of Respondents	79	86

Table 4. Ordered Probit Estimates of Menu Item Conjoint Model.

Variable	Coefficient	t-ratio	Willingness to Pay	
			Estimate	**Confidence Interval**
			Dollars	*Dollars*
Intercept	1.924**	10.134		
Beef	0.511**	7.558	7.81	[5.13, 10.88]
Lamb	0.332**	5.050	5.08	[2.37, 8.10]
Arizona Grown® Logo	0.168**	2.544	2.57	[1.79, 3.42]
Origin Description	0.304**	4.355	4.66	[3.63, 5.87]
Price	-0.065**	-5.798		
Threshold Parameters				
m_2	0.611**	14.780		
m_3	0.913**	19.887		
m_4	1.143**	23.565		
m_5	1.465**	28.483		
m_6	1.790**	33.253		
m_7	2.000**	35.932		
m_8	2.400**	40.110		
m_9	2.879**	42.135		
N	1404			
c^2	139.188**			

Two (**) and one (*) asterisks denote significance at the five and ten percent levels, respectively. The confidence intervals are computed at a 90% confidence level.

Table 5. Ordered Probit Estimates of Gift Shop Wine Conjoint Model.

Variable	Coefficient	t-ratio	Willingness to Pay	
			Estimate	Confidence Interval
			Dollars	*Dollars*
Intercept	1.666**	5.049		
Arizona Grown® Logo	0.252**	2.296	9.40	[3.28, 33.21]
Origin Description	0.034	0.309	1.26	[-1.53, 6.69]
Organic Label	0.057	0.499	2.13	[-0.60, 8.10]
Price	-0.027	-1.474		
Threshold Parameters				
m_2	0.349**	6.219		
m_3	0.749**	10.581		
m_4	0.972**	12.901		
m_5	1.340**	16.535		
m_6	1.731**	20.093		
m_7	2.076**	22.873		
m_8	2.496**	25.174		
m_9	3.086**	25.342		
N	516			
c^2	11.114**			

Two (**) asterisks denote significance at the five percent level. The confidence intervals are computed at a 90% confidence level.

Table 6. Ordered Probit Estimates of Gift Shop Salsa Conjoint Model.

Variable	Coefficient	t-ratio	Willingness to Pay	
			Estimate	Confidence Interval
			Dollars	*Dollars*
Intercept	2.607**	10.841		
Arizona Grown® Logo	0.642**	6.717	3.78	[2.81, 5.24]
Origin Description	0.174*	1.853	1.03	[0.64, 1.52]
Price	-0.170**	-6.159		
Threshold Parameters				
m_2	0.269**	4.160		
m_3	0.729**	8.289		
m_4	1.124**	11.759		
m_5	1.618**	15.886		
m_6	1.971**	18.751		
m_7	2.258**	20.858		
m_8	2.764**	23.659		
m_9	3.315**	24.931		
N	516			
c^2	77.786**			

Two (**) and one (*) asterisks denote significance at the five and ten percent levels, respectively. The confidence intervals are computed at a 90% confidence level.

Table 7. Ordered Probit Estimates of Gift Shop Candy Conjoint Model.

Variable	Coefficient	t-ratio	Willingness to Pay	
			Estimate	Confidence Interval
			Dollars	*Dollars*
Intercept	1.666**	7.950		
Arizona Grown® Logo	0.283**	3.023	2.69	[1.71, 4.12]
Origin Description	0.053	0.582	0.51	[-0.05, 1.18]
Price	-0.105**	-3.873		
Threshold Parameters				
m_2	0.650**	10.881		
m_3	0.995**	14.777		
m_4	1.207**	16.955		
m_5	1.568**	20.332		
m_6	1.850**	22.255		
m_7	2.099**	23.612		
m_8	2.530**	24.306		
m_9	2.821**	24.584		
N	516			
c^2	22.675**			

Two (**) asterisks denote significance at the five percent level. The confidence intervals are computed at a 90% confidence level.